Wide Angle Ophthalmoscope
Instructions

PLEASE READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY

Keeler

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1.0 Symbols

Attention. Read operating manual for cautions and instructions for use

CE

The CE mark on this product indicates it has been tested to and conforms with the provisions noted within the 93/42/EEC Medical Device Directive

2.0 Warnings & Cautions

Warning
This product must not be used in the presence of flammable gases.

Warning
This product should not be immersed in fluids

Warning
Do not use if the product is damaged and periodically inspect visually for signs of damage

Precautions when using ophthalmoscopes
The intensity of light directed into the patient's eye should be limited to the minimum level necessary for diagnosis.

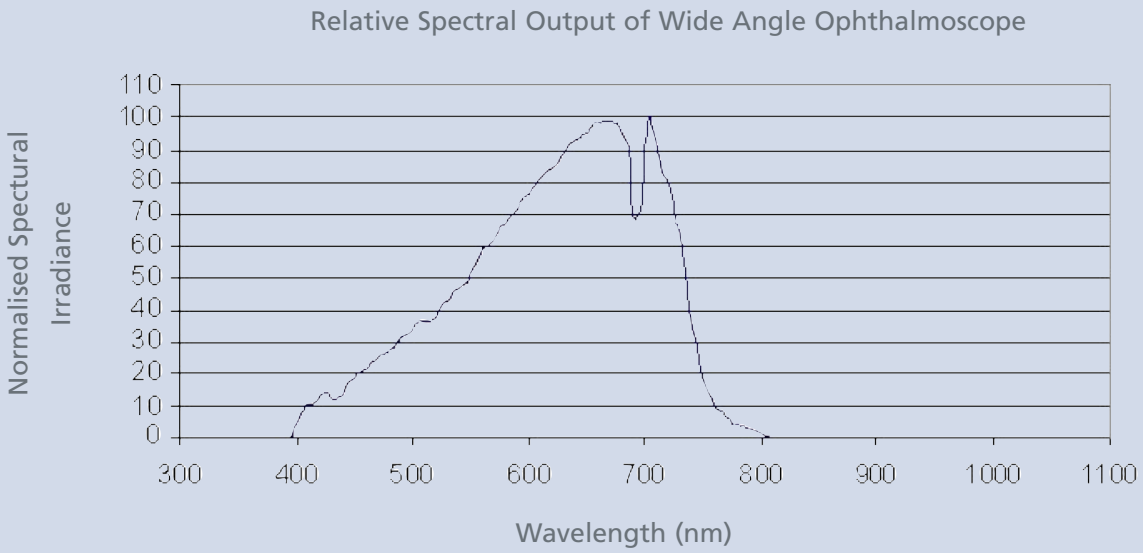
Because prolonged intense light can damage the retina, the use of the device for ocular examinations should not be unnecessarily prolonged, and the brightness setting should not exceed what is needed to provide clear visualisation of the target structures.

The retinal exposure dose for a photochemical hazard is a product of the radiance and the exposure time. If the value of radiance were reduced in half, twice the time would be needed to reach the maximum exposure limit.

While no acute optical radiation hazards have been identified for direct or indirect ophthalmoscopes, it is recommended that the intensity of light directed into the patient's eye be limited to the minimum level which is necessary for diagnosis. Infants, aphakes and persons with diseased eyes will be at greater risk. The risk may also be increased if the person being examined has had any exposure with the same instrument or any other ophthalmic instrument using a visible light source during the previous 24 hours. This will apply particularly if the eye had been exposed to retinal photography.

Complies with EN ISO 15004:1997

Ophthalmic instruments – Fundamental Requirements and test methods



Spectrally Weighted Photochemical Source Radiance	Symbol	Value (mW / cm² sr)
Aphakic (305 – 700nm)	L_A	0.133
Phakic (380 – 700nm)	L_B	0.1226

⚠ This product should only be used with Keeler Ltd 3.5V handles and bulbs.

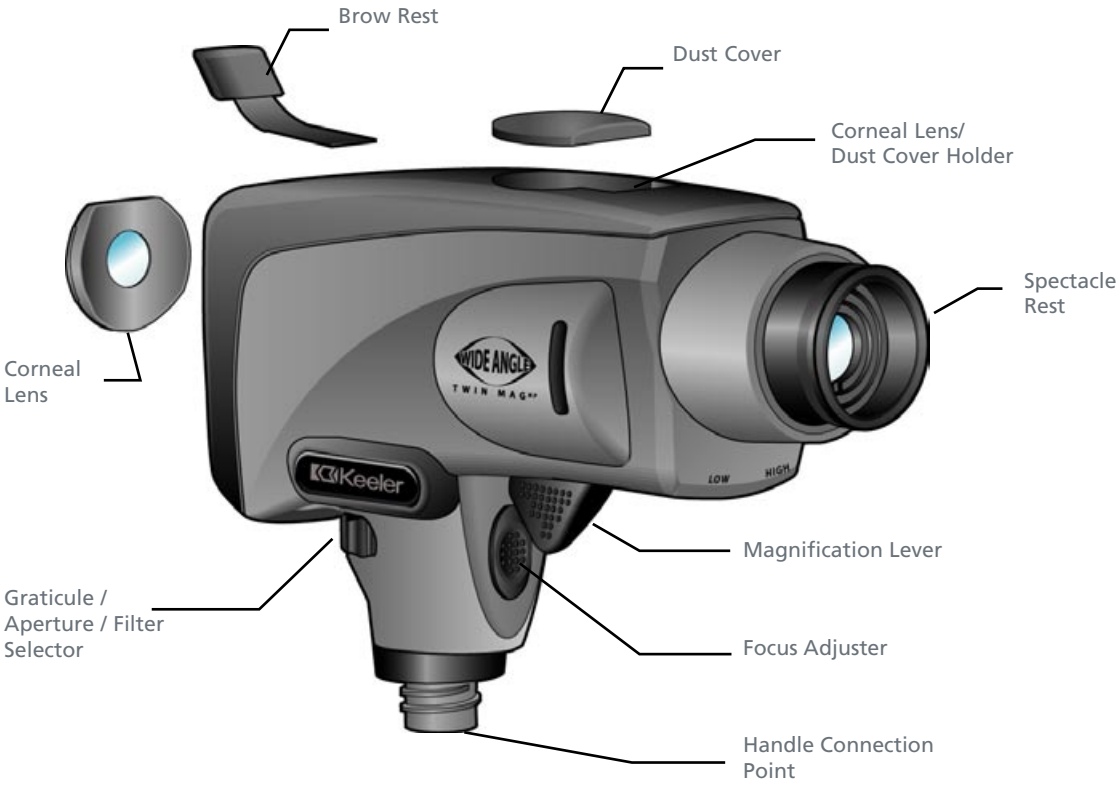
⚠ Refer to handle instructions for handle operation, battery fitting and disposal of rechargeable batteries.

⚠ Federal Law restricts this device to sale by or order of a physician or practitioner. (USA only)

⚠ Do not use where ambient temperatures exceed 35°C.

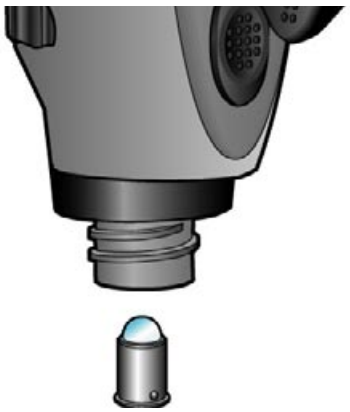
⚠ Strong magnetic fields may influence or distort sensitive electronic or mechanical test instruments. Very sensitive devices may even be destroyed. Always keep magnets at a safe distance from such devices.

3.0 Description of Product



4.0 Getting Started

4.1 Check that the instrument has bulb fitted (Note: Bulb should be 3.5V which is identified with a red plastic insert). Ensure that the location pin on the bulb is aligned and pushed into the slot in the bulb holder of the instrument.



4.2 Connect the instrument to the handle (Note: Handle should be 3.5 V, which is identified with a red moulding located on the handle base cap).

4.3 Position Spectacle rest, which is located at the user end of the instrument.

4.3.1 Spectacle rest should be pulled out for non spectacle users.

4.3.2 Spectacle rest should be pushed in for spectacle users.

Note: A positive click action will be felt when the Spectacle rest is in position.

4.4 Remove Dust cover and store in dust cover holder.

4.4.1 If the optional brow rest is to be used slide the brow rest into the area indicated by the arrow.

4.5 Set the Magnification Lever to LO and select the small or intermediate aperture by rotating the Graticule / Aperture / Filter Selector.

Look through the eyepiece and focus the instrument on an object by sliding the Focus Adjuster up or down.

4.6 Turn on the lamp by rotating the Light Intensity Adjuster anti-clockwise. Rotate until the desired intensity is achieved.

4.7 Position yourself at approx 0.6 metre / 2 feet. View the patient's eye along the visual axis. The red reflex will become apparent.

Move towards the patient and if necessary refocus the instrument on any fundal detail - the optic disc and its surroundings will be in the field of view.

As you move closer, the field of view will increase and will be at its maximum when you are 15mm / 1/2 inch from the patient's cornea. At this point the retinal image seen will be reflex free. Position your hand on the patient's forehead to steady the instrument.

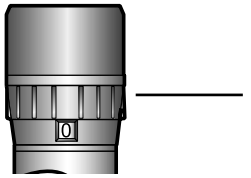
4.7.1 If using the optional brow rest move the instrument towards the patient until the brow rests on the patient's forehead.

4.7.2 The large 25° field of view is ideal for general examinations and provides 15x retinal magnification.

4.8 Flip the magnification lever to HI to view the 17.5° view of the retina.

The 17.5° field of view is ideal for increased disc and macula detail and provides 22.5x retinal magnification.

4.9 After the retinal examination has been completed, ensure the Light Intensity Adjuster is turned to the 'Off' position. This can be achieved turning the Light Intensity Adjuster fully clockwise until a clicking action is felt / heard.



4.10 Corneal Examination procedure:-

4.10.1 Administer fluorescein dye to the patient's eye

4.10.2 Position Corneal Lens at the front of the instrument as shown, ensuring location flats are aligned. Corneal lens is attached magnetically.

4.10.3 Select Blue Filter from the Graticule / Aperture / Filter Selection wheel.

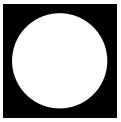
4.10.4 View cornea from a distance of 15mm / 1/2 inch from the front of the instrument.

5.0 Apertures & Filters

The graticule control is used to select the required beam for examination. The choice of graticules is as follows.

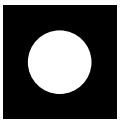
5.1 Wide Angle

Illuminates the largest area of fundus for the best possible general diagnosis through a dilated pupil.



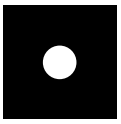
5.2 Intermediate

Permits easier access through an un-dilated pupil in peripheral examination. Particularly useful in paediatric examination.



5.3 Macular

Designed specifically for viewing the macular area of the fundus. Reduces pupillary reaction and improves patient comfort.



5.4 Slit

Used primarily to determine retinal elevations and depressions but may also be used to assess anterior chamber depth.

5.5 Cup Disc Graticule

Projects a graticule onto the retina to assess the optic disc/ cup ratio as an aid to glaucoma diagnosis and monitoring.

5.6 Semi Circle

Provides a combination of depth perception and field of view.

5.7 Filter Applications

Red free (green filter) Is used to examine the blood vessels in fine detail. The green filter blocks red rays showing blood vessels as black against a dark green background. This filter is particularly useful for diabetic retinopathy.

5.8 Cobalt Blue

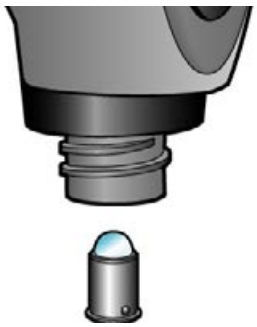
Is used in conjunction with fluorescein for the rapid detection of corneal infections and other disturbances.

6.0 Bulb Replacement

6.1 Replacing the Bulb

Warning

Care should be taken when handling halogen bulbs. Halogen bulbs can shatter if scratched or damaged. The bulb should be replaced as indicated in diagram below.



Switch off the instrument and allow the bulb to cool before attempting to replace it.
Only Keeler bulbs can be used in the instrument for which they are designed. Ensure the replacement matches the bulb being replaced.

Ensure the replacement bulb is the correct voltage. Red = 3.5V for rechargeable handles.

7.0 Cleaning Instructions

It is recommended that instruments are cleaned before use.
Only manual non-immersion cleaning as described below should be used for the ophthalmoscope.

7.1 Wipe the external surface with a clean absorbent, non-shedding cloth dampened with a water / detergent solution (2% detergent by volume) or water / isopropyl alcohol solution (70% IPA by volume). Avoid optical surfaces.

7.2 Ensure that excess solution does not enter the instrument. Use caution to ensure cloth is not saturated with solution.

7.3 Surfaces should be carefully hand-dried using a clean non-shedding dry cloth.

7.4 Safely dispose of used cleaning materials.

8.0 Accessories

8.1 Bulb (pack of 2) – 1012-P-7004
8.2 Corneal Lens - 1130-P-7000

9.0 Service & Warranty Information

Your Keeler diagnostic ophthalmic instruments are guaranteed for 3 years and will be replaced or repaired free of charge subject to the following:-

9.1 Any fault that is due to faulty manufacture
9.2 The instrument has been used in compliance with these instructions
9.3 Proof of purchase accompanies any claim.

Please note bulbs and batteries are not covered by this warranty statement.

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